

Moving Hydrologic Research into NWS Forecasting Operations

The foundation for any activity must first and foremost be the functional use of the end product. The end product requirement for the National Weather Service (NWS) is the provision of flash-flood and river forecasts for the protection of life and property, as well as the enhancement to the Nation's economic well being. The NWS provides these forecasts on a continuous basis for approximately 4,000 forecast points across the Nation via a finite infrastructure, i.e., computational and human resources. The challenge to the NWS, with its finite infrastructure, is to optimally maintain the robustness of its operational models and modeling systems for the provision of forecasts at multiple time scales and over diverse hydroclimatic regimes. Within these requirements and constraints, the NWS shares with the hydrologic science research community interests in basic research, applied research, new/enhanced hydrologic model demonstrations and the operational use of the new/enhanced hydrologic model(s). Specific scientific research areas of interest to the NWS include: the use of distributed models; enhanced linkages between meteorologic, hydrologic and climatologic forecasts; the provision of forecasts spanning time scales ranging from hours to days to weeks to months; the provision of ensemble forecasts containing information regarding the forecast accuracy; and enhanced data handling techniques for model calibration and operations. With these research interests, the challenge we share with the hydrologic science community is to maintain the robustness of continuous operations for the Nation and advance the implementation of mature science into these operations within the constraints of a finite infrastructure.